Material characteristics

Particular characteristics of coppers for electrical purposes

Edit

Copper type	Characteristics	Material designation	
		Symbol	Number
Tough pitch coppers	Coppers of this type are produced with a controlled amount of oxygen and have high electrical conductivity. Special precautions are necessary when heat-treating, welding or brazing these coppers in atmospheres containing hydrogen to avoid hydrogen embrittlement.	Cu-ETP1	CW003A
(oxygen-containing coppers)		Cu-ETP	CW004A
		Cu-FRHC	CW005A
Oxygen-free coppers	Coppers of this type are produced in an oxygen-free environment without the use of deoxidisers and have high electrical conductivity. These coppers may be heat-treated, welded or brazed without the need for special precautions to avoid hydrogen embrittlement.	Cu-OF1	CW007A
		Cu-OF	CW008A
		Cu-OFE	CW009A
Deoxidised coppers	Coppers of this type are produced with the addition of a controlled amount of deoxidiser, preferably phosphorus, and contain a controlled low amount of residual deoxidiser; these coppers have high electrical conductivity. These coppers may be heat-treated, welded or brazed without the need for special the need for special precautions to avoid hydrogen embrittlement.	Cu-PHC	CW020A
		Cu-HCP	CW021A
		Cu-PHCE	CW022A
Silver-bearing coppers	Tough pitch, oxygen-free and deoxidised coppers can be produced with additions of silver, up to '0,12 % (mass fraction). The effect of the silver content is to increase the resistance to softening without significantly affecting the electrical conductivity.	CuAg0,04	CW011A
		CuAg0,07	CW012A
		CuAg0,10	CW013A
		CuAg0,04P	CW014A
		CuAg0,07P	CW015A
		CuAg0,10P	CW016A
		CuAg0,04(0F)	CW017A
		CuAg0,07(0F)	CW018A
		CuAg0,10(0F)	CW019A